

ARTICLE 89-05

CONSTRUCTION OF DIKES

Chapter	
89-05-01	Construction of Dikes Within the Floodplains of the Red River of the North and the Bois de Sioux Rivers

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CONSTRUCTION OF DIKES WITHIN THE FLOODPLAINS OF THE RED RIVER OF THE NORTH AND THE BOIS DE SIOUX RIVERS

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89-05-01-01. Intent. The purpose of this chapter is to provide for the orderly and consistent review of permit applications to construct, relocate, rebuild, or alter agricultural dikes located within the floodplains of the Red River of the North and Bois de Sioux Rivers. The authority to establish this chapter is granted to the North Dakota state engineer by North Dakota Century Code section 61-16.1-38. Similar rules will be in effect in the state of Minnesota. The two states recognize that establishment of these rules governing the issuance, review, and denial of permits to construct, relocate, rebuild, or alter agricultural dikes along the Red and Bois de Sioux Rivers is but the first step in the exercise of joint control over those activities which could contribute to an increased flood potential of these rivers. The two states further recognize the need to exercise this joint control in a cooperative and coordinated manner because water management decisions which appear logical in a local or statewide context may have negative interstate and international impacts. These rules will also provide a basis for the review of

existing unauthorized agricultural dikes along the Red River and Bois de Sioux River.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-02-24, 61-16.1-38

89-05-01-02. Application of chapter. This chapter governs the review, issuance, and denial of permits to construct, relocate, rebuild, or alter agricultural dikes located within the floodplains of the Red River of the North and the Bois de Sioux River. Floodplain areas of the Red River of the North are defined in Appendix 0, Volume 8 of the Souris-Red-Rainy Basins Comprehensive Study of "Red River of the North Main Stem Regional Floodplain Area" and the floodplain of the Bois de Sioux River is defined by the United States geological survey one percent change of recurrence area flood quadrangles. These criteria apply to dikes constructed on tributaries within the floodplains of the Red River or the Bois de Sioux River.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-03. Definitions. Unless the context otherwise requires, the following definitions apply:

1. "Board of commissioners" means the board of commissioners of a water management district.
2. "Boundary rivers" means the Red River of the North and the Bois de Sioux River as they form a natural boundary between the states of Minnesota and North Dakota.
3. "Dike" means an embankment constructed of earth or other suitable materials to protect agricultural lands from floods which result from overflow of watercourses or from diffused surface waters.
4. "District" means water management district.
5. "Farmstead" means a farm dwelling or associated farm buildings.
6. "Flood frequency" means the average frequency, statistically determined, for which it is expected that a specific flood stage or discharge may be equaled or exceeded. This frequency is usually expressed as having a probability of occurring, on the average, once within a specified number of years.
7. "Floodwaters" means those waters which temporarily inundate normally dry areas adjoining a watercourse. This inundation results from an

overflow of the watercourse caused by excessive amounts of rainfall or snowmelt which exceed its capacity.

8. "Person" means a human being, firm, partnership, association, corporation, or any other type of private legal relationship, and any governmental organization, which includes, but is not limited to, any agency of the United States, a state agency, and any political subdivision of the state.
9. "Ring dike" means an embankment constructed of earth or other suitable materials for the purpose of enclosing a farmstead.
10. "State engineer" means the state engineer, appointed pursuant to North Dakota Century Code section 61-03-01, or the state engineer's designee.
11. "Watershed" means the area draining into, or contributing water to, the Red River of the North or the Bois de Sioux River.
12. "Waterway" means a channel in which a flow of water occurs either continuously or intermittently in a definite direction. The term applies to either natural or artificially constructed channels.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-04. Severability. The provisions of this chapter shall be severable, and the invalidity of any section or subsection shall not make void any other section or subsection, or any other part.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-05. Design criteria.

1. Dikes shall be constructed so as not to cause an increase in the elevation of floodwaters which will result in an unreasonable increase in flood damages due to the displacement of floodwaters. However, in no event shall dikes, based on total encroachment, increase the elevation of floodwater of the one hundred year frequency flood of more than one-half foot [15.24 centimeters].
2. Calculation of the effects of proposed dikes shall be based on the dikes being located on both sides of the Red and Bois de Sioux Rivers so as not to cause more than one-half of the maximum allowable stage increase. If mutual agreement has been reached between persons on

both sides of the river, dikes on one side of the river may utilize the entire increase in flood stage elevation allowable.

3. Dike dimensions. Dike top widths shall not be less than six feet [1.83 meters]. Side slopes shall not be steeper than 3:1, except whose slope stability analysis and slope erosion control can justify steeper slopes. No organic soil or material shall be allowed in the foundation of the fill of dikes.
4. Vegetative cover and riprap. A protective cover of grasses shall be established on all exposed surfaces of the dike. Riprap shall be used where required for control of erosion.
5. Interior drainage. Dikes shall have provisions for interior drainage. The design shall include plans to handle the discharge from the drainage area based on drainage design requirements for the local area.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-06. Dike design data. The North Dakota state water commission shall provide the discharges and corresponding elevations of various frequency floods (and other available flood data), in relation to known historic floods, for use in dike design.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-07. Dikes across natural waterways and legal drains. Dikes shall not be constructed across tributaries to the Red River and the Bois de Sioux River without proper authorization from the appropriate agency. Dike setbacks along tributary waterways to the Red River and the Bois de Sioux River, within the area defined in section 89-05-01-02, shall meet the criteria as stated in section 89-05-01-04. Dikes constructed across special assessment drains or public ditch systems constructed pursuant to North Dakota Century Code title 61 shall require the approval of the appropriate drain board, water management district, or other local authority.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-08. Farmstead diking. Within an existing dike system, ring dikes around individual farmsteads shall not require permits if they do not include tiebacks to existing roadways or dikes. Ring dikes with tiebacks shall be considered part of the overall dike system and will be required to secure diking permits. This waiver of a permit requirement for ring dikes from the state engineer does not

relieve the necessity of appropriate authorization for ring dikes from the local water management district in accordance with the North Dakota Century Code.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-09. Application for permit. All applications submitted by the owner to construct, to relocate, rebuild, or alter dikes shall be made on forms provided by the North Dakota state engineer and shall be accompanied by two complete sets of plans or specifications. Such plans and specifications shall include the following:

1. A general location map with a minimum scale of one inch to eight hundred feet [2.54 centimeters to 243.84 meters] showing the following:
 - a. Location of the dike with respect to the watercourse.
 - b. Location of field inlets to provide for internal drainage.
 - c. Location of legal drains and natural channels tributary to the main river channel.
2. Detailed cross sections of the dike showing elevations, in relation to mean sea level, and side slopes.
3. The state engineer may require any other additional information that the state engineer deems necessary.

After review of the information required above and other available data, the state engineer shall determine the location and number of required cross sections of the river channel and overland areas. These locations shall be provided to the applicant who shall then provide the required cross-section data. The applicant shall undertake and agree to pay the expenses incurred in securing these cross sections.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-10. Joint permit applications. Joint permit applications involving two or more landowners or a permit application on behalf of two or more landowners will be accepted by the state engineer. These permit applications, taken together, must meet the requirements of this chapter.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-11. Referral to water management district. Within forty-five days after the receipt of a permit application, the state engineer shall make recommendations and suggestions concerning the propriety and efficiency of the proposal to the water management district within which the contemplated project is located. The water management district shall, in accordance with this chapter, review the application and impose any conditions for the orderly management of water resources it deems necessary. The permit application shall then be returned to the state engineer for final approval. Unless an exception is granted pursuant to section 89-05-01-15, the state engineer and the water management district shall not allow the construction of a dike not in conformance with this chapter nor which is unsafe, improper, or dangerous, and may order such changes as necessary for safety or the protection of property.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-12. Issuance of permits. Dike permits will be issued only upon concurrent approval of the state engineer and the appropriate water management district. Approval of the permit will in no way relieve the owner from damages which may be caused or created by construction of the dikes.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-13. Joint administration. A copy of each application and accompanying information for a permit shall be forwarded by the state engineer to the department of natural resources of Minnesota for comment and recommendation before final approval is granted. If comments are not received within thirty days, the state engineer shall process the permit without such comments.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-02-24, 61-16.1-38

89-05-01-14. Permit revocation. The applicant shall provide certification by a registered land surveyor, engineer, or other qualified person or agency that the finished dike elevations are not higher than those approved by the state engineer. The permit will be revoked for failure to provide this certification. The permit may be revoked for failure to construct the dike in accordance with the plans and specifications submitted. Structural alteration of the dike without permission of the state engineer and the appropriate water management district will also result in revocation of the permit.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-15. Dike reconstruction or rebuilding. Reconstruction or rebuilding of any authorized dikes shall require notification of the state engineer and recertification upon completion in accordance with section 89-05-01-14.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-16. Exception to the criteria. Under special circumstances, exceptions to the dike criteria may be authorized on an individual basis but they must have the concurrent approval of the North Dakota state engineer, local water management board in North Dakota, Minnesota department of natural resources, and local watershed district in Minnesota. Factors that will be considered, among other things, shall be increase in flood stage, increase of stage at existing city dikes, increase in stream velocity, and environmental effects. In addition, the state engineer will authorize the utilization of farmsteads, property lines, and existing roads for dike construction, consistent with this chapter.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38

89-05-01-17. Application to existing dikes. This chapter applies to all unauthorized dikes constructed in the past for the protection of those agricultural lands located within the floodplains of the Red River of the North and the Bois de Sioux, as defined in section 89-05-01-02. Exceptions are farmstead dikes which meet the provisions of section 89-05-01-08.

History: Effective August 1, 1980.

General Authority: NDCC 28-32-02, 61-03-13

Law Implemented: NDCC 61-16.1-38